

JUL 28 2010

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Page 14**REMARKS/ARGUMENTS**

Claims 59-121 were prior pending in the application. Claims 63, 64, 75, 76, 83-87, 92-95, 97-99, 102-105, 108, 109, 114-117, 120 and 121 were indicated allowable. The Examiner has rejected claims 59-62, 65-74, 77-82, 88-90, 100, 101, 106-107, 112-113, and 118-119 are rejected, and has objected to claims 91, 96, and 110-111.

The following claims are currently amended: 59-60, 62-66, 68-69, 72-74, 89-91, 101, 104, and 110.

The following 18 claims have been cancelled to reduce claims fees: 77-84, 105, 107-109, 111, 113-115, and 120-121.

Entry of the Amended and New claims is respectfully requested.

Examiner Interview

Applicants thank the Examiner for her time and assistance during recent telephonic interviews aimed at finalizing the amendments and responding to the Examiner's objections.

Specification

The Examiner requested updating of the specification to reflect changes in newly submitted drawings. Applicant draws the Examiner's attention to the Amendment filed February 16, 2010, where the following sentence was deleted in the brief Description of the figures for Figure 3: "Amino acid residues sharing identity are highlighted."

The specification was carefully reviewed for additional text describing Figures 2, 3, and 5. With this Amendment, the specification has been amended to conform to the Figures.

Claim Objections

Correction of informalities in claims 59, 91, 96, 110 and 111 was suggested to remove Examiner's objections to the claims: In claim 59, the Examiner suggests "to" should

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be inserted before "any". With this Amendment, claim 59 has been amended as suggested by the Examiner. Claim 91 has been amended to remove dependency from two claims. Claims 110 and 111 have been amended to replace the word "cereal" with "legume" and no longer duplicate claims 104 and 105.

With the amendments discussed above, these claims are considered to be in allowable form.

Claim Rejections - 35 USC § 112, second paragraph

Claims 65-74 and 77-82 were rejected under 35 U.S.C. 112, second paragraph, as indefinite, citing claims 65, 66, 69, and 72 as lacking antecedent basis for the term, "protein". Claims 65, 66, 69, and 72 have been amended to refer to replace "protein" with the term "protein". Claims 65-74 and 77-82 are considered to be in allowable form. Removal of this rejection is respectfully requested.

Claim Rejections - 35 USC § 102

A. Anticipation by Madsen

Claims 59, 61, 65, 67 and 69-71 were rejected under 35 U.S.C. 102(a) as anticipated by Madsen *et al.*, 2003 (*Nature* 425:637-640). The Examiner notes that Madsen teaches sequences having 100% identity to SEQ ID NOs: 6-8, 11, 12, 15, 30 and 31; and 87% identity to SEQ ID NO: 32.

Applicant respectfully traverses this rejection. Madsen was published on October 9, 2003 after the priority date of July 3, 2003. The two priority documents (Danish application and U.S. provisional application) each disclose SEQ ID NOs: 6-8, 11, 12, 15, 30, 31 and 32. SEQ ID NO: 32 is shown, for example, in Figure 3 (*M.t.*). Page 9 of the provisional application explains Figure 3 is the aligned amino acid sequence of LjNFR5, PsSYM10, and

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Medicago truncatula. Applicants' 2003 priority claim is clear on the documents as filed, including [0001] of the specification, and on the USPTO filing receipt dated 2/20/.

Because sequences 6-8, 11-12, 15 and 30-32 were disclosed in the priority documents before the publication of Madsen, Applicants assert Madsen is not prior art to the instant claims. Claims 59, 61, 65, 67 and 69-71 are considered to be in allowable form. Removal of this rejection is respectfully requested.

B. Anticipation by Radutoiu

Claims 60, 62, 66, 68, 72-74, 80-82, 88-90, 100, 101, 106, 107, 118 and 119 are rejected under 35 U.S.C. 102(a) as being anticipated by Radutoiu *et al.*, 2003 (*Nature* 425:585-592). The Examiner notes that Radutoiu teaches sequences which have 100% identity to SEQ ID NOs: 21-24 and 99% identity to SEQ ID NO:25.

Radutoiu was published in October 9, 2003 after Applicant's provisional application was filed on July 3, 2003. SEQ ID NOs: 21-25 were all disclosed in the priority documents (Danish application and U.S. provisional application), for example, in the Sequence Listing provided. Because sequences 21-25 were disclosed in the provisional application before the publication of Radutoiu, Applicant asserts that Radutoiu is not prior art to the instant claims.

Claims 60, 62, 66, 68, 72-74, 80-82, 88-90, 100, 101, 106, 107, 118 and 119 are considered to be in allowable form. Removal of this rejection is respectfully requested.

C. Anticipation by Limpens

Claims 60, 66, 72, 80, 88, 100 and 112 are rejected under 35 U.S.C. 102(a) as being anticipated by Limpens *et al.*, 2003 (*Science* 302:630-633 (previously cited)). The Examiner asserts "Limpens teaches a sequence which has 85% [identity] to SEQ ID NO:54."

Examiner notes that SEQ ID NO: 54 was first disclosed in the instant application, and

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accords priority for this sequence as July 2, 2004, the filing of the PCT application (reciting the sequence).

To speed prosecution, Applicants amended the claims to require at least 90% amino acid sequence identity to SEQ IDs 52 and 54. Support for this amendment is found at least at page 6 of the specification:

"Substantially identical refers to two nucleic acid or polypeptide sequences that have at least about 60%, preferably about 65%, more preferably about 70%, more preferably about 70%, further more preferably about 80%, most preferably about 90% or about 95% nucleotide or nucleic acid identity when aligned for maximum correspondence over a comparison window as measured using one of the sequence comparison algorithms given herein, or by manual alignment and visual inspection." Page 6, paragraph [0067]

Conclusion

In conclusion, Applicants priority documents were each filed on July 3, 2003. As such, references dated after July 3, 2003 are not prior art to the sequences disclosed in the prior art documents (SEQ ID NOs: 1-32). Removal of rejections based on the inventors' publications, *Madsen* 2003 and *Radutoiu* 2003 are respectfully requested.

Limpens 2003 is cited for disclosing a sequence that has at least 80% sequence identity to SEQ ID NO: 54. SEQ ID NOs: 52 and 54 are first disclosed in the PCT publication filed July 2, 2004. Applicants have amended the claims to require at least 90% amino acid sequence identity to SEQ ID NOs: 52 or 54. *Limpens* does not disclose or suggest a sequence having at least 90% amino acid sequence identity to SEQ ID NOs: 52 or 54. Removal of rejections based on the *Limpens* reference is respectfully requested.


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Applicants have also added new independent claims drawn to each of the polypeptide sequences recited in claims 59, 60, and 122.

In view of the amendments and remarks, entry of the amendments and remarks is respectfully requested. All of the claims in this amended application should now be in condition for allowance. A prompt notice to that effect is respectfully solicited. If there are any remaining questions, the Examiner is requested to contact the undersigned at the number listed below.

Respectfully submitted,

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